

REMARKS

Claims 4 and 11-15 are pending. Claims 12 and 13 were amended. Claim 12 was amended, without narrowing its scope, so that the terminology used in the recitation of the phase comparator would be the same as in the other independent claims. Claim 13 was amended, again without narrowing its scope, to correct the idiomatic English and to be consistent with the corresponding portion of claim 11. Claims 11-14 are independent. Favorable reconsideration is respectfully requested.

Claims 4 and 11-15 were rejected under 35 U.S.C. § 103 over U.S. Patent 5,900,784 (O'Sullivan) in view of U.S. Patent 6,147,532 (Ueda) and further in view of U.S. Patent 5,986,514 (Salvi et al.). Applicant submits that the independent claims are patentable for at least the following reasons.

Claims 11 and 13, both require a PLL frequency synthesizer circuit wherein "when the control voltage changes to a value close to one of the driving limits, the power supply voltage is modified independently of the control voltage so as to maintain the stability of the output signal from the VCO." Amended claims 12 and 14 both require the use of the PLL frequency synthesizer wherein "the power supply signal (applied to the VCO) is controlled independently of the control signal to thereby widen an apparent lock range of the PLL." Claim 4 depends from claim 12 and claim 15 depends from claim 14 and include all of the respective limitations found therein.

As was pointed out in the previous response dated August 9, 2004, O'Sullivan adjusts a bias voltage applied to a reference signal V_{in} *to adjust for temperature and power supply variations* to maintain lock. Col. 5, lines 45 through 47. There is no teaching whatsoever in O'Sullivan of modifying the power supply voltage (or signal) of the VCO.

In particular, there is no teaching or suggestion of modifying a supply independently of the control voltage (or signal), to maintain stability of the output of the VCO, as in claims 11 and 13, or to widen the apparent lock range of the PLL, as in claims 12 and 14. In fact, O’Sullivan teaches that the control voltage for the VCO is controlled by application of a bias voltage at least in part on the basis of power supply variations that may occur. *Id.*

In the Office Action, the Examiner appears to be reading the recited power supply voltage on the combination of elements 160 and 170 in O’Sullivan, elements that control/supply a *bias voltage* for selecting one of the CCO’s 182, 184, or 186. However, the “supply” in “supply variations,” referred to in the above-quoted portion of O’Sullivan, is clearly *not* referring to the bias voltage, since the bias voltage is adjusted at least in part on the basis of the “supply variations.” In fact, O’Sullivan does not teach modifying the power supply voltage at all, only that it may vary, which is not the same thing.

For at least the above reasons, it is clear that the control voltage and the power supply voltage in O’Sullivan are not independent of one another. Moreover, there is no teaching or suggestion of modifying the power supply voltage, independently of the control voltage. In summary, the power supply voltage in O’Sullivan is: (1) *not* modified (but may vary); and (2) *not* independent of the control voltage.

Moreover, each of claims 11 and 13, which were indicated as having been allowed in the Advisory Action dated September 3, 2004, recite that when the control voltage changes to a value close to one of the limits, the power supply voltage is modified independently of the control voltage so as to maintain the stability of the output signal from the VCO. The position was taken in the Office Action that this feature of independent modification of the power supply when the control voltage comes close to one the limits is shown by control inputs in O’Sullivan that are independent of V_{in} .

First, as pointed out above, *no* modification of the *power supply* is taught in O'Sullivan. Moreover, supplying bias control to a particular oscillator circuit cannot be said to correspond to the feature by which when the control voltage changes to a value close to one of the limits, the power supply voltage is modified independently of the control voltage so as to maintain the stability of the output signal from the VCO. There is simply no teaching of this feature anywhere in the cited portions of O'Sullivan.

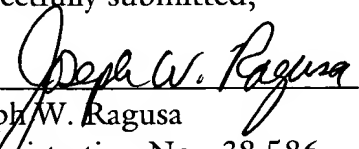
Neither Ueda nor Salvi et al. remedy the above-mentioned deficiencies of O'Sullivan as a reference against the independent claims. For at least the above reasons, the independent claims, and the claims dependent thereon, are believed clearly allowable over the cited references.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

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Respectfully submitted,

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